

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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EDITORIAL COMMENT



THE TIMES, in a recent issue, strikes a serious warning note relative to possible danger from an attempt by Germany to revenge herself for her defeat in the War by means of an aerial attack on her late enemies. According to recent information supplied to *The Times*, it is confirmed, as FLIGHT has pointed out over and over again, that Germany has not by a long way complied with the terms of Article 198 of the Peace Treaty, which deprives her of the use of naval and military aircraft and agrees the surrender to the Allies of completed aircraft and engines. This latest information claims that between 2,000 and 3,000 engines of a type suitable for military use have been hidden in Germany or just across the frontiers, where they would be available almost at a moment's notice. Moreover, it is also emphasised that there are large numbers of aeroplanes concealed from the enquiring gaze of the Inter-Allied Commission. Naturally, *The Times* enquires very pertinently what the Allied Governments are doing about this and what they intend to do.

Under the terms of the ultimatum handed to Germany last March and accepted by her, the German Government was compelled to agree to accept an eventual definition by the Allies of the difference between civil and military aircraft. Although it seems a matter of urgency that this definition should be framed at once, it has not been done. It may be agreed that it is a matter of some difficulty to draw up a satisfactory definition, which will at once safeguard the Allies and allow Germany a reasonable measure of civil expansion, but it is nevertheless essential that it should be drafted before the position becomes more menacing than it is. It has been suggested that the two fundamental distinctions between the military and the civil aeroplane may be defined thus: (1) The civil machine need not have a radius of flight of more than 300 to 400 miles, as compared with the much wider radius of the fighting machine; and (2) Civil aeroplanes should not be able quickly to rise to great heights, since the altitudes that may be essential in fighting are not requisite for commercial purposes. It is suggested, therefore, that the Allies should require German aircraft

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:

- Oct. 20 Lecture, "The Langley Machine and the Hammondsport Trials," by Griffith Brewer, before R.Ae.S.
- Oct. 22-30 Aero Exhibition, Prague
- Nov. 3 Pulitzer Trophy Race.
- Nov. 3 Lecture, "Manœuvres of Getting Off and Landing," by Sq.-Ldr. R. M. Hill, before R.Ae.S.
- Nov. 12-27 Paris Aero Salon
- Nov. 15-26 International Air Navigation Congress (Paris)
- Nov. 17 Lecture, "Requirements and Difficulties of Air Transport," by Col. F. Searle, before R.Ae.S.
- Dec. 1 Lecture, "Design of a Commercial Aeroplane," by Capt. G. de Havilland, before R.Ae.S.
- Dec. 15 Lecture, "Development of the Fighting Aeroplane," by Capt. F. M. Green, before R.Ae.S.
- 1922.
- Jan. 5 Lecture, "Specialised Aircraft," by Wing-Com. W. D. Beatty, before R.Ae.S.
- Jan. 19 Lecture, "Aeroplane Installation," by Brig.-Gen. R. K. Bagnall-Wild, before R.Ae.S.
- Feb. 2 Lecture, "Radiological Research," by Dr. V. E. Pullin, before R.Ae.S.

factories to work to a specification that would oblige German civil aircraft to land every 300 or 400 miles, and would not enable them to rise above 8,000 to 9,000 feet.

It is obviously necessary for the safety of the Allies that some such limitations should be imposed upon Germany in the matter of her civil aircraft programme. Nobody is so foolish as to think that she has any present intention of embarking on a war of revenge, but it must be perfectly obvious that to allow her to build large numbers of machines capable of almost instant conversion from the purposes of peace to those of war is to invite her to try her luck once again. When we are dealing with a nation like Germany, which regards the most solemn obligations as mere scraps of paper, to be torn up when it suits her book, we cannot afford to take chances. Quite clearly it is time the definition spoken of was framed and communicated to Germany and a rigid adherence to the specification insisted upon.

The Civil Aspect

Apropos German aviation expansion, Mr. Holt Thomas points out that the question of disarmament is serious enough, but of comparative insignificance to the position which will arise when the terms of the Peace Treaty have reached their limitation. If under all the restrictions as to construction, limited as Germany is to her own territory, she can conduct 6,000 miles of air routes flown over every day, it is not difficult to imagine what German air lines will do when she is entirely free. The more nations disarm, he says, the more serious becomes the menace of any nation, hostile to the peace of the world, possessing large aerial fleets ostensibly for civil purposes. The progress of rapid communication provided by the aeroplane cannot be stopped. The freedom of the air cannot be denied, and it is certain that Germany, immediately she is free, will have air lines running all over the world and, what is more important to us, all over the British Empire.

This is exactly what we have argued all along. It is impossible to deny the freedom of the air to any nation, just as much as it is impossible to deny the freedom of the seas to any who will observe the elementary laws imposed by civilisation. Unquestionably, Germany will seek to expand her trade by means of the employment of large aerial fleets, and, once she is free of the trammels of the Peace Treaty, no one can say her nay. Nor would they wish to, provided she is prepared to adhere to the laws and usages laid down for those who go by air about their lawful occasions. All this is perfectly clear, and it is just as clear that the only answer we can make is through predominating British air lines, created before Germany has time to get going on her programme.

Mr. Holt Thomas urges that a modern aeroplane will carry a ton of first-class mail matter at 1s. per ounce from London to Australia in four or five days, in organised stages such as London-Paris. As a commercial proposition it only wants, he says, the ton to be forthcoming to see the establishment of a weekly air mail throughout the Empire, *before it is done by Germany*. This looks like a challenge to the Postmaster-General. Will not somebody put the direct question to Mr. Kellaway in Parliament: Will he, if a firm, or combination of firms of sufficient standing and repute, are prepared to run such a service as a commercial proposition, find the necessary

ton of mail matter? The matter is very serious indeed, and a straight answer is needed to an equally straight question.

Sir Ian Hamilton and the Air

In his book "The Soul and Body of an Army," General Sir Ian Hamilton makes use of a phrase which at once conjures up all the old-time romance of the sea, excepting that in this case it is the air to which he refers. Speaking of the future of mechanical warfare—and he believes that war will be almost entirely mechanical—he says, "We must tame the tank and the aeroplane; they've got to be as familiar to us as taxis. Boys must run away to the air as Lord Reading, Masfield and other famous men have run away to sea."

We confess that this is a new idea to us. We had never visualised a time when the life of the airman would, like that of the sailor, attract the youthful imagination to the point at which the boy would "run away to the air." Of course, the air has a wondrous attraction to the young lad whose future has not been determined by himself or for him by his parents or guardians, but we live in so matter of fact an age that we had really thought the idea of running away to sea had been exploded years ago. But, when we come to think of it, we suppose that boys do still run away from home to make for the nearest seaport, full of all sorts of fantastic ideas of the wondrous lands beyond the Seven Seas and the romance of life on board ship. So too we can imagine the youth whose thoughts have turned to the air leaving his home in the early morning before others are astir, and setting his face, bundle in hand, towards Croydon or Lympne, or whatever airport he may in his mind have chosen to be the starting point of the great adventure. We see him arrived there, footsore and weary, but full of a great hope in the future of his life as an airman. He may be fortunate and find himself shipped on board an aircraft bound for the outermost confines of the earth, and then—? Will he, like his predecessor who ran away to sea, find himself disillusioned and that life in the air is not all he had pictured it, or will he be so carried away by the sheer romance of it all that he will adopt the air as his life's career? Will he, like many who have done the same thing by the sea, rise by ability and close study until his name shall go down to posterity as one of the great air commanders? Will he—but these are visions conjured for us by Sir Ian Hamilton's chance manner of putting it. But the vision is so full of glamour that we could wish we were many decades younger. We would run away from home to the air.

The R.A.F. and Mesopotamia

It is stated that the first official steps have been taken towards replacing the greater part of the army in Mesopotamia by units of the R.A.F., according to the plans approved a year or more ago. If the R.A.F. can justify expectations, it will mean a saving of many millions a year to the overburdened British taxpayer, besides affording a great object-lesson in the value of aircraft for carrying out the almost purely police duties of an army of occupation.

The whole of the forces in Mesopotamia, including troops and R.A.F., are to be under the command of Air Vice-Marshal Sir Geoffrey Salmond. This again is a precedent which is very likely to be followed largely in future where such tasks as that of keeping



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LONDON-PARIS FROM THE AIR, AS SEEN FROM A HANDLEY PAGE MACHINE :
No. 11.—*Above :* Between Tulse Hill and Croydon. *Below :* Croydon.

quiet an area like Mesopotamia are concerned. The force which is primarily responsible for the peace and safety of the country concerned will provide the high command. The experiment will be watched with close interest, because the R.A.F. is, so to say, on its trial. Or, rather, the principle and policy of using a few aircraft to do the work which has hitherto absorbed a large number of less mobile troops is to be thoroughly tried out. That it will succeed we believe, but that it is an experiment must be acknowledged, and it must be treated as such.

An Air Conference Next Year?

The Air Ministry has decided to hold another public Air Conference next year—in February, it is said. We are all in favour of such Conferences, which to our way of thinking do inestimable good in the way of focusing public attention on the development of aerial navigation. When the previous conference was held, just a year

ago, the Press of the country rose to the occasion and reported its proceedings at considerable length and in full detail, so far as the subject-matter enabled them. What this means to the movement needs no labelling.

There is just one point, however, to which attention may usefully be directed. The last Conference was, in its proceedings, more like a meeting of a learned scientific society than anything else. The papers were too long and too full of detail—extremely useful from some points of view, but not “captivating” to the general public. It is to be hoped that in the next Conference some of the papers will be shorter and give scope for capturing general public attention, and that means will be taken to show the public what has been and is being done to develop aviation, particularly on the civil side of the movement. There is an opening for giving a tremendous impetus to popularising aviation upon a wide scale, if only some good organiser is allowed to have imagination and to translate it into practical demonstration.

Washington Conference

At the coming Washington Conference, Vice Air-Marshal Higgins will represent the Air Ministry on the British Empire Delegation.

King Albert still Leading the Way

WHENEVER opportunity offers, King Albert of Belgium always selects the air for his journeys, thereby enabling him to undertake engagements which it would otherwise be impossible to entertain. On October 13 the King left Casablanca about 7 a.m. by the Postal Service aeroplane for Toulouse, via Malaga, Alicante and Barcelona, arriving about 5 on Friday. At Toulouse he took train to Paris, and after a call next day upon M. Millerand, he left Le Bourget by air again, in his own aeroplane, and arrived at Brussels a little after 3 p.m.

What an example!

America's Unknown Warrior

It is a fitting choice that Mrs. McCudden, mother of the late Maj. B. McCudden, V.C., R.A.F., should have been selected to take to America the National Wreath for the grave of the U.S. Unknown Warrior. The choice was in the hands of the Pilgrim Fathers Association, who after reducing some 600 applications from bereaved mothers, selected Mrs. McCudden from a final six.

The following claims of Mrs. McCudden for this distinguished duty could hardly be denied:—

Husband, who died by accident last year, had 30 years' Army service. Before he was 17 had been decorated with the Khedive Star, Egyptian Medal, and Royal Humane Society Medal.

Three sons killed in the War:—

(1) Ten years' Army service, decorated with Mons Star and bar, and was one of the first N.C.O. pilots to go to France, where he was killed in May, 1915.

(2) Major in the R.A.F., and held every decoration from the V.C. downwards it was possible to obtain; also held the Croix de Guerre and the American Aero Club diploma. Before he was killed in July, 1918, was officially credited with having brought down 57 enemy machines.

(3) Second-Lieutenant in the R.A.F. Before he was killed in 1918 brought down 11 enemy planes, and during his career won the M.C.

In addition Mrs. McCudden lost her son-in-law and two nephews, all on active service, and had in all about 25 relatives serving with the Forces.

Mrs. McCudden will take with her a parchment roll bearing the names of the sympathisers enclosed in a casket made of oak, taken from H.M.S. *Impregnable*.

The 6-ft.-high wreath will be in five sections, and will consist of flowers representing England, Scotland, Wales, Ireland and the Dominions. It will be preserved in a ton and a half of ice.

THE LONDON-CONTINENTAL SERVICES
FLIGHTS BETWEEN OCTOBER 9 AND OCTOBER 15, INCLUSIVE

Route†	No. of flights*	No. of passengers	No. of flights carrying		No. of journeys completed†	Average flying time	Fastest time made by	Type and (in brackets) Number of each type flying
			Mails	Goods				
Croydon-Paris ...	32	95	11	23	29	h. m. 3 10	D.H.18 G-EAWO (2h. 20m.)	B. (3), D.H.18 (1), G. (3) H.P. (3), Sp. (5), V. (1).
Paris-Croydon ...	30	106	9	26	29	2 58	D.H.18 G-EAWO (2h. 13m.)	B. (2), D.H.18 (1), G. (4), H.P. (2), Sp. (6), V. (1).
Croydon-Amsterdam ...	6	8	6	6	6	3 29	Fokker H-NABJ (2h. 56m.)	F. (4).
Amsterdam-Croydon ...	6	7	6	4	6	4 7	Fokker H-NABJ (3h. 33m.)	F. (4).
Totals for week ...	74	216	32	59	79			

* Not including “private” flights.

† Including certain journeys when stops were made *en route*.

‡ Including certain diverted journeys.

Av. = Avro. B. = Breguet. Br. = Bristol. Bt. = B.A.T. D.H.4 = De Havilland 4, D.H.9 (etc.).
F. = Fokker. Fa. = Farman F.50. G. = Goliath Farman. H.P. = Handley Page. M. = Martinsyde. N. = Nieuport.
P. = Potez. R. = Rumpler. Sa. = Salmson. Se. = S.E. 5. Sp. = Spad. V. = Vickers Vimy. W. = Westland.

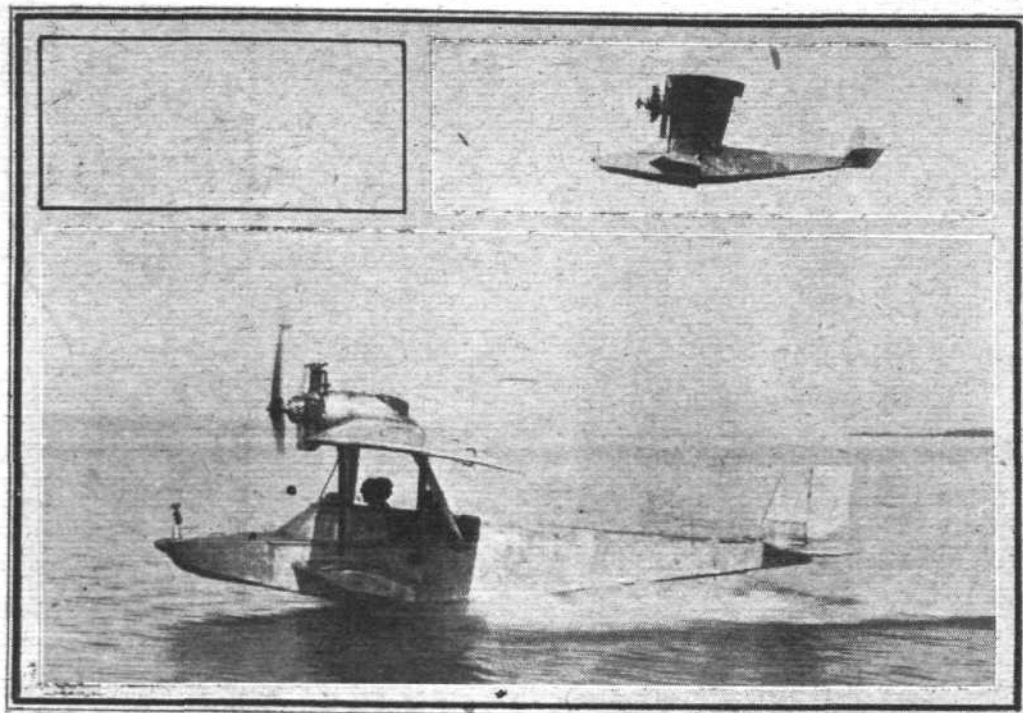
The following is a list of firms running services between London and Paris, Brussels, etc., etc.:—Co. des Grandes Expresses Aériennes; Handley Page Transport, Ltd.; Instone Air Line; Koninklijke Luchtvaart Maatschappij; Messageries Aériennes; Syndicat National pour l'Étude des Transports Aériens; Co. Transaérienne.

THE DORNIER "DRAGON FLY" FLYING BOAT

FROM time to time we have published descriptions and illustrations of the various products of the Zeppelin firm built to the designs of Herr Dornier: ("Some Dornier Milestones," December 16, 1920; the C. III monoplane, March 31, 1921; the Cs. II monoplane flying boat, April 21, May 21, and June 9, 1921). This week we are able to give

istic Dornier stamp may be noticed. The most prominent of these are the aerofoil-floats projecting from the sides of the hull, which take the place of the wing tip floats, and have the advantage of contributing to the lift, instead of adding to the resistance, of the machine.

As in previous Dornier models, the "Dragon Fly" is



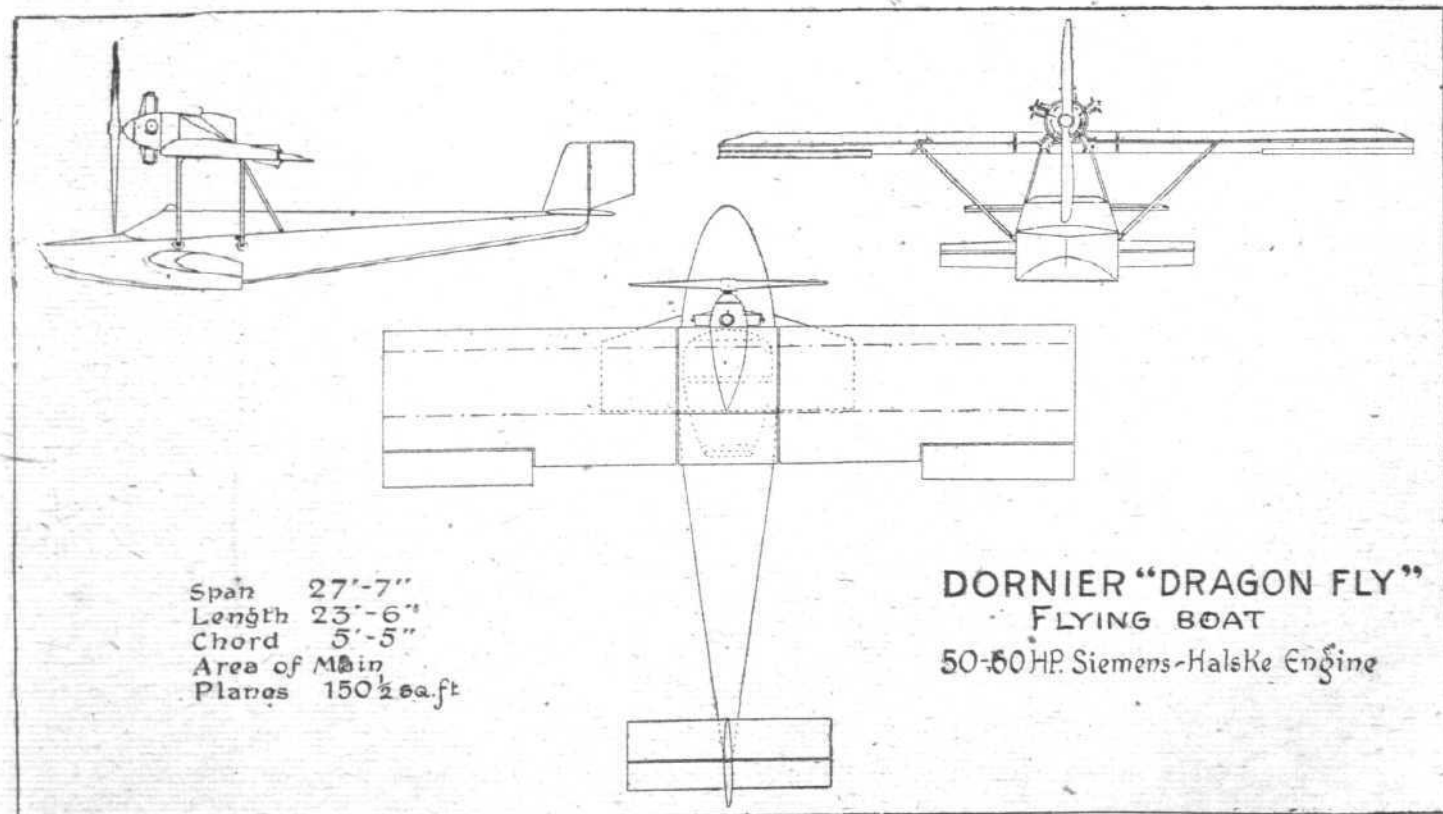
The Dornier "Dragon Fly" Flying Boat: The boat, with three on board, and 60 h.p., takes off. Inset, in flight.

some illustrations and a few particulars of Herr Dornier's latest design, a small, low-powered, three-seater monoplane flying boat.

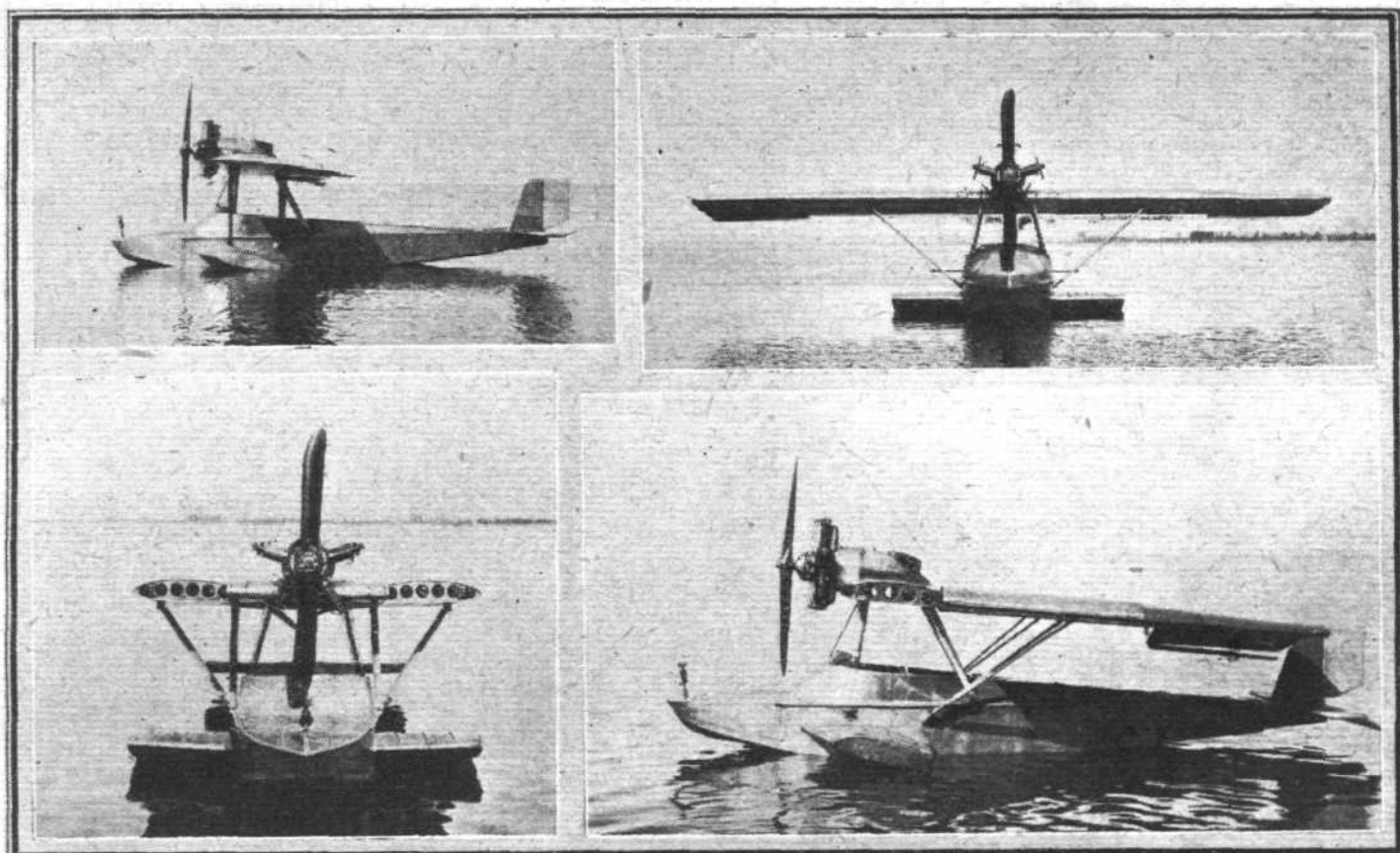
The "Dragon Fly," as this machine is called, was constructed at Rorschach, on the Swiss side of Lake Constance (where a new factory has been formed by the Dornier Metal Aircraft Mfg. Co.), and it is, we believe, being used by the Swiss Société Ad Astra Aéro at Zurich and Geneva. It will be seen from the accompanying illustrations that the "Dragon Fly" possesses a pleasing and at the same time practical appearance. Also, several distinctive features of character-

almost entirely of metal construction, duralumin being employed not only for the hull, but for the wings and wing covering as well. The wings are of the semi-cantilever type, without dihedral or sweepback. They are, unlike the wings on the previous Dornier boats, built up in three sections and are made to fold back—a useful feature not often to be found in connection with flying boats. A short centre section, no wider than the hull, is mounted above the latter on a *cabane* of four struts; the outer sections are mounted to this centre section, being hinged at the rear spar roots.

Built up with the centre section is a streamlined housing for



THE DORNIER "DRAGON FLY" FLYING BOAT: General arrangement drawings.



THE DORNIER " DRAGON FLY " FLYING BOAT : Four views of the boat, side and front, with the wings extended (top) and folded (bottom).

the engine and fuel tanks. The outer wing sections are braced to the hull by a pair of streamline struts each side. When the wings are folded back, the front struts are disconnected at the attachment to the hull, and are secured to a lug on the lower extremities of the rear struts. The attachment to the hull of the rear struts is, of course, of the swivelling type. It will be seen, therefore, that the wings are supported by the struts when the wings are folded right back. The folding operation is easily accomplished in about one and a half minutes, and it takes about a minute longer to extend them; both operations can be carried out whilst the boat is on the water, and, furthermore, it is claimed that once erected the wings do not require any trueing up. With the wings folded it is stated that the "Dragon Fly" manoeuvres on the water as easily as a motor boat.

In order to make room for the inner rear corners of the wings, when folded, the rear portion of the centre section aft of the rear spar either folds down out of the way, or is removed entirely—on which point we have no definite information, but it is probable that this portion is covered in with fabric when the wings are extended which is detached when the wings are folded. The ailerons are not hinged to the rear spar, but to auxiliary members between the latter and the trailing edge.

The tail plane is of narrow rectangular plan form, fabric covered, to the trailing edge of which is hinged a one-piece elevator. A balanced rudder hinged to a vertical fin, both fabric covered, are mounted above the tail plane.

The metal hull is of rectangular section, with a single

step located below the position of the rear wing spar. It tapers to a shallow vertical knife-edge at the stern, and has a pronounced V at the bows and a shallow V rearwards from the step. A roomy cockpit is provided for the three occupants immediately below the wings, two seats being located in front, side by side, with dual control, and the third seat behind.

In the model illustrated a 50-60 h.p. 5-cylinder radial air-cooled Siemens-Halske engine is fitted, but in subsequent models a 7-cylinder 80 h.p. engine of the same make will be fitted. The engine, as previously mentioned, is mounted in a streamline housing on the centre section, in front of the leading edge, and drives an 8-ft. diameter tractor screw.

The "Dragon Fly," it appears, has a good performance, and handles very nicely. With the 50-60 h.p. engine, three on board and fuel for one hour's flight, it comes "unstuck" in about 30 seconds. The principal characteristics are as follows:—

Span	27 ft. 7 ins.
	(folded, 10 ft.)
Chord	5 ft. 5 ins.
O.A. length	23 ft. 6 ins.
Height	7 ft. 5 ins.
Area of wings	150.5 sq. ft.
Weight (empty)	770 lb.
Weight (full load)	1,320 lb.
Weight/sq. ft.	8.8 lb.
Weight/h.p.	22 lb.
Speed	80 m.p.h.
Factor of safety throughout	8.

Reorganisation of the R.A.F. in India

THE Indian Group of the Royal Air Force is being re-organised, and will in future comprise four wings instead of two, although the number of squadrons will not be increased. The new distribution of units is as follows:—

R.A.F. Headquarters, Ambala.

No. 1 Indian Wing: Headquarters, Peshawar; No. 20 Squadron, Kohat; No. 31 Squadron, Peshawar.

No. 2 Indian Wing: Headquarters, R.A.F. School, and No. 28 Squadron, Ambala.

No. 3 Indian Wing (new formation): Headquarters and No. 5 Squadron, Quetta.

No. 4 Indian Wing (new formation): Headquarters, No. 27 Squadron, and No. 80 Squadron, Risalpur.

Aircraft Depôt, Karachi.

Aircraft Park, Lahore.

The Aircraft Factory at Lahore is no longer required, and is to be disbanded.

The Air Officer Commanding the Indian Group is Air Commodore T. I. Webb-Bowen, C.B., C.M.G. For operational purposes, the group is under the command of the Commander-in-Chief, India.

R.A.F. at Aden

A SPECIAL Flight of the Royal Air Force has been sent recently from Egypt to Aden to carry out flying operations under the control of the General Officer Commanding the military forces at that place.

Relinquishment of R.A.F. Station, Freiston

THE land and buildings comprising the R.A.F. Station at Freiston have been passed to the Disposal and Liquidation Commission for disposal.

THE "ALULA" WING DEMONSTRATED

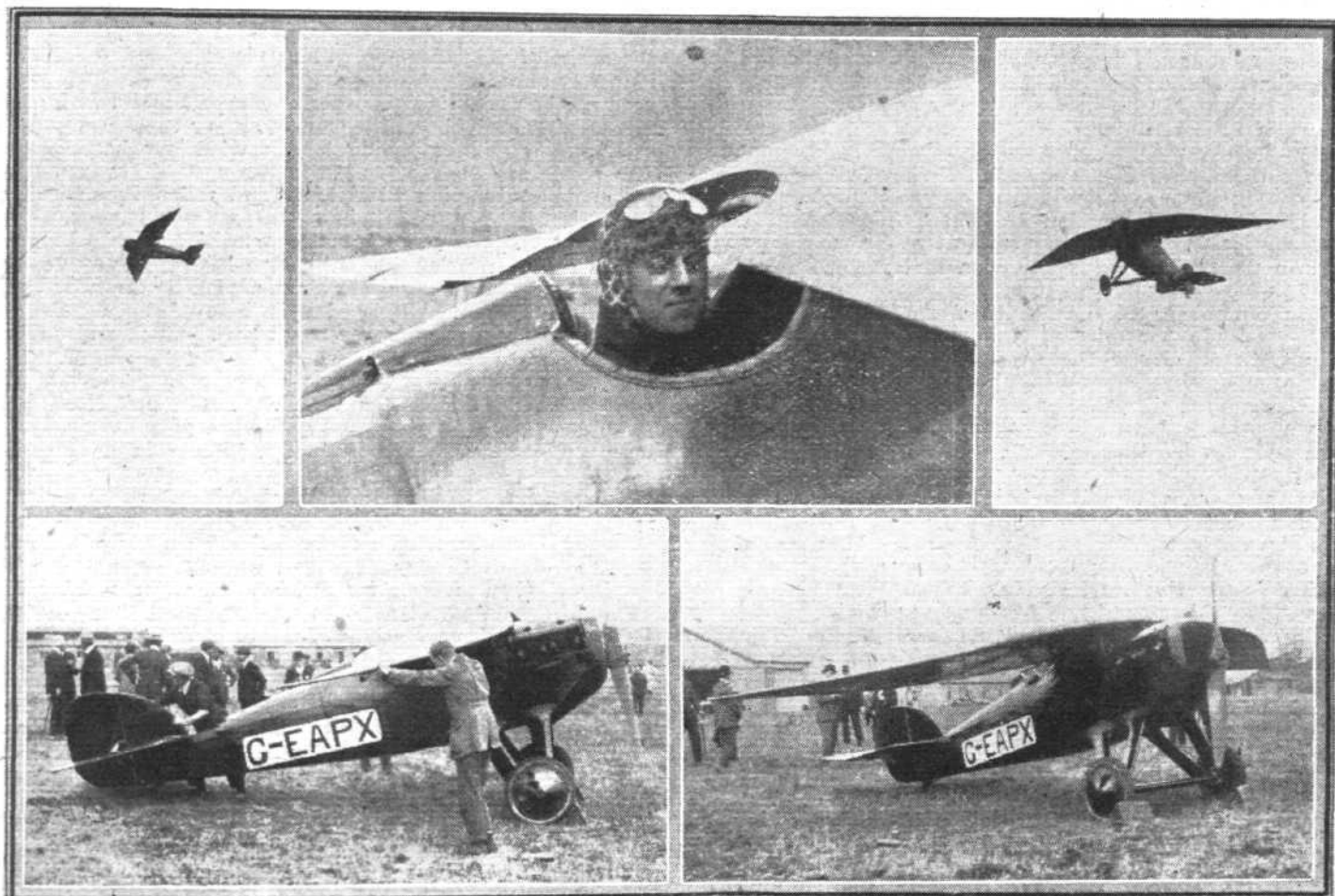
For the purpose of witnessing a practical demonstration of the application of the "Alula" wing to the needs of the fighting air service, at the invitation of the Commercial Aeroplane Wing Syndicate, of 30, Norfolk Street, Strand, London, W.C., we paid a visit to Northolt aerodrome on Wednesday of last week. Having previously referred to the "Alula" wing in *FLIGHT* (July 22 and August 5, 1920), we do not propose at the present moment to dwell upon the particular characteristics of this wing—especially as we hope to give a full technical report on the latest "Alula" developments very shortly—but will confine our remarks to the demonstration referred to above, and to a few points in connection with the aims of the Commercial Aeroplane Wing Syndicate.

It may be desirable, however, briefly to outline the general principle of the "Alula" wing, and the advantages claimed

wider track, rendered necessary owing to the higher centre gravity of the machine.

For the demonstration the "Semi-Alula-quaver" was piloted by our old Hendonian friend, R. W. Kenworthy, and as a comparison of performance a Service Bristol Fighter (275 h.p. Rolls-Royce) took the air simultaneously.

This "comparison" was certainly spectacular, but hardly one for serious consideration, inasmuch as last year's Aerial Derby winner could easily hold its own against a Bristol Fighter, and we take it that the fitting of the new wing to the "Semi-quaver" was to result in even better performance. However, whilst the Bristol Fighter took off as a well-behaved Bristol should, the "Semi-Alula-quaver," although indulging in a somewhat longer run, climbed at what seemed to be an angle of about 60 degrees, and was soon well above the Bristol. In a little over one minute an altitude



THE "ALULA" WING DEMONSTRATED: Two views of the Martinsyde "Semi-quaver" fitted with an "Alula" wing, and, above, R. W. Kenworthy who flew the machine. Inset, the machine in flight.

for it. By the employment of a peculiar wing-form and wing-section, very bird-like in appearance—and somewhat reminiscent of the Weiss glider—it is claimed that the air flow across the wing is maintained in a uniform direction, parallel to the line of flight, from root to tips, thus preventing end losses obtaining in ordinary "rectangular" wings, caused by the outward flow, or spilling, of the air at the tips. Or, as Mr. A. Holle, the designer of the wing, put it, the "Alula" has a "two dimensional" air flow. The "Alula" was, therefore, considered particularly suitable as an economic commercial weight-carrier, but it was suggested by Air-Vice-Marshal Sir Edward Ellington that the speed and climb claimed for the new wing would be of value in air fighting, and so a wing was designed and built for the "Aircraft destroyer" demonstrated last week.

This wing, which has a span of 28 ft. 6 ins. and 106½ sq. ft. of area, is built up entirely of wood—covering included—in the form of a cantilever. It has no spars as in the orthodox wing, but, as Mr. Holle describes it, is in itself a complete spar.

It is mounted on a *cabane* above the Martinsyde "Semi-quaver" fuselage—the same machine that won last year's Aerial Derby. There is no external bracing. The original landing gear has been replaced by one having a much

of 3,000 ft. was reached. Kenworthy then put up various manoeuvres around the Bristol, and on two occasions they dived down to a low altitude and flew abreast past the gathering of spectators, the "Semi-Alula-quaver," of course, shooting well ahead. Kenworthy told us later that his air speed indicator was showing 180 m.p.h. On the whole the machine put up a very good show, seemed to handle very nicely—and it certainly is one of the prettiest machines in the air we have seen.

The demonstration was witnessed by quite a number of "big people" connected with aeronautical matters, amongst whom may be mentioned Captain the Right Hon. F. Guest, Secretary for Air, Air Vice-Marshal Sir J. M. Salmond, Air Vice-Marshal Sir Edward Ellington, Group-Capt. A. F. L. Scott, Air-Commodore Pritchard and Col. Beatty.

Mr. Holle informed us, after the demonstration, that the purpose of the Commercial Aeroplane Wing Syndicate was to develop the "Alula" wing to meet the requirements of all types of aircraft, as he was convinced that there was unlimited scope for the application of the "Alula" principle for all purposes. The Syndicate, however, he pointed out, were not constructors, but undertook to design wings for all types of aeroplanes according to the nature of work they have to undertake.

ONE MILLION FRANCS FOR AN AERO ENGINE

French Encouragement to Aviation

THE announcement recently that a French Prize of one million francs had been offered for the "best" aero engine has now been confirmed, and the text of the official announcement is as follows:—

"The Administrative Council of the French Committee for Aeronautical Propaganda, in considering the importance of commercial aviation, which is intimately linked up with improvements in present aero engines, has decided:

"1. To provide a prize of one million francs, which will be awarded to the constructor of an aero engine which has given proof, in passing satisfactorily tests instituted for the purpose, of durability, reliability, ease of dismantling, and erecting, etc., and similar qualities indispensable in a commercial engine.

"The competition is to be international, under the reservations of the present rules of the *Fédération Aéronautique Internationale*, but foreign manufacturers will only be allowed to compete after having undertaken to manufacture their engine in France, if it wins the competition, and that under conditions to be determined by the rules governing the competition. The engines must be ready for tests at the latest on June 1, 1923.

"2. To ask the French Aero Club to be good enough to charge the *Commission d'Aviation* of the Club, whose competence in these matters is universally acknowledged, with establishing, in collaboration with the French Committee for Aeronautical Propaganda, the regulations for the competition and to undertake the organisation and supervision of the tests and the award of the prize."

The Committee of the French Aero Club has accepted, with gratitude, the offer of the prize, and has declared its willingness to charge the *Commission d'Aviation* with the task of organising, supervising the tests and of awarding the prize. The Club has also expressed its gratitude to M. Michelin, to whose influence the establishment of the prize is largely due, and who has thus once more proved his desire to further aviation.

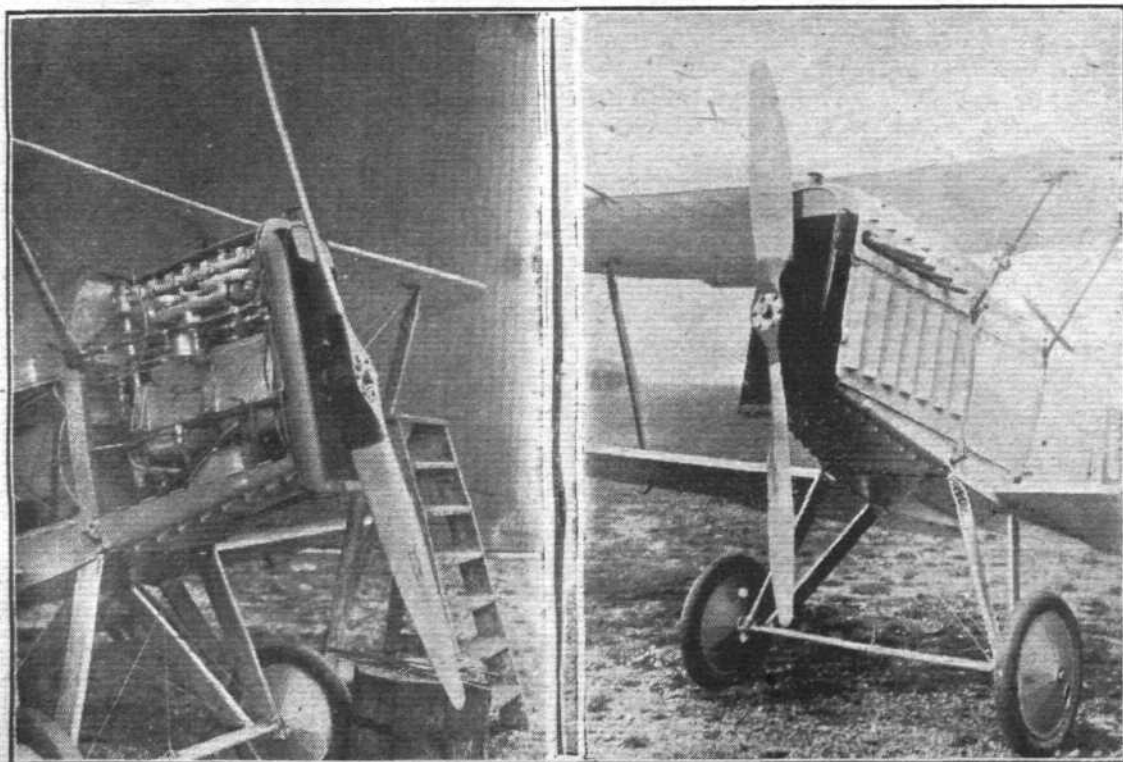
At the moment of writing it is not quite clear whence the million francs is to come. It is understood that M. Michelin has given a handsome donation towards it, and presumably the rest will be raised by the Committee for Aerial Propaganda, which was established last year, its president being General Duval, late Director of the *Aéronautique Militaire*.

The offer is undoubtedly a handsome one, and should be sufficiently generous to make it worth while for manufacturers to compete. Even at the present rate of exchange, counting 50 francs to the pound sterling, one million francs represents £20,000, which should be sufficient to see a firm just about reimbursed for its outlay in producing an engine. It should also be remembered that a firm which produces an

engine for the competition, even if not actually winning it, would stand a very good chance of selling a fair number, since it is scarcely likely that any one engine can be found which will satisfy all requirements, and in certain circumstances and for certain uses non-prized engines might be found more suitable than the winning design.

That the French Committee for Aerial Propaganda has chosen the right item for their competition cannot be doubted. If it be possible to evolve an absolutely reliable engine aviation's worst trouble is over, and remaining problems can be attacked with equanimity. Night flying and flying in fogs will lose most of their perils, and long-distance flying over the sea will become safe and possible. With an absolutely reliable engine (and by this we mean, of course, its vital accessories as well) and a proper organisation of wireless direction finding stations, there will be few places on the globe which cannot be linked up by air services. Furthermore, when night flying becomes safe over long distances the speed of the aeroplane will be virtually doubled. That is merely another way of saying that the present high speed need not be maintained in order to compete easily with older means of transport. Consequently slower machines can be used and a greater paying load carried per horse-power. The result will be a reduction in the cost of air transport, which, in conjunction with safety and reliability and regularity, is what we are all aiming at and working for.

When we come to the actual competition itself, the ways and means of ensuring that the competition shall produce the "best" aero-engine are less simple. Until the rules have been drawn up and published it is little use speculating on the feasibility of meeting the conditions. Much will depend upon these. For instance, what will the stipulated power be? Will there be any restriction as to type? Will the competition be limited to petrol engines? and, if so, is it to be water-cooled or air-cooled? What will be the maximum permissible weight per horse-power, taken in conjunction with the fuel consumption? These and many other questions arise instantly. However, in the hands of the *Commission d'Aviation* of the French Aero Club doubtless a set of sensible rules will be drawn up, and in the meantime we can only congratulate the Committee of Aerial Propaganda on its generous offer, and on its far-sightedness in making the competition international. Commercial aviation of the future will in the very nature of things be of an international character, and what benefits one nation will benefit all. It is to be hoped that the excellent example set by France will be followed by other great nations, in which case we shall soon see splendid progress in commercial aviation towards that perfection which is bound ultimately to place it in the very front of means for intercommunication between nations.



Avro Baby for India :
 This machine has been built for Mr. E. Villiers, who already owns a standard Avro type K. 504. In view of the special conditions, a large radiator has been fitted, and the mounting for the 35 h.p. Green engine has been specially designed, being built of steel tubing. The new mounting makes the engine remarkably accessible. A large locker is fitted behind the cock-pit to accommodate the personal luggage of the owner when touring in India. Mr. Hinkler delivered the machine to Northolt by air, and Mr. Villiers at once went up for a test flight, expressing himself very pleased with the machine.



NOTICES TO AIRMEN

Aerodromes for Civil Use : Consolidated List

FRESH lists (No. 81 of 1921) have been issued of:

1. Aerodromes, Seaplane Stations and landing grounds, open to civil aviation in the United Kingdom, and Service and Civil stations, available to civil aircraft in case of emergency only, which have been corrected to October 1, 1921.

2. The lists are classified as follows, each aerodrome or landing ground being given in alphabetical order:—

LIST A.—Government-owned Aerodromes available for civil flying, at which accommodation exists.

(a) Civil Aerodromes. (b) Service Stations.

LIST B.—Aerodromes available for civil machines in emergency only.

(a) Permanent Service Stations.

(b) Stations temporarily retained for Service purposes.

(c) Civil Stations.

N.B.—The aerodromes in Section (a), Permanent Service Stations, and Section (b), Stations temporarily retained for Service purposes, except aerodromes which are within a prohibited area (e.g., Gosport), may be used, until further notice, in addition to cases of real emergency:—

(i) For refuelling in the course of journeys where no civil facilities exist.

(ii) For landing of passengers proceeding to a destination near the aerodrome concerned.

No guarantee can be given that any R.A.F. transport will be available, or that the machine can be housed in such cases.

Where possible, notice of intention to use any such aerodrome should be given in advance to the Officer Commanding.

LIST C.—Licensed Civil Aerodromes.

(a) Civil Aerodromes licensed for all types.

(b) Civil Aerodromes licensed as "Suitable for Avro 504 K and similar types of aircraft only." (Except in very few instances, accommodation does not exist. The licences have been issued for limited periods only. Foreshore aerodromes are not included.)

LIST D.—Unlicensed Private Aerodromes.

Aerodromes available for civil machines only by special permission of the owners, or in emergency.

3. Customs Stations.—The only aerodromes at which Customs facilities exist at present are Croydon, Cricklewood and Lympne.

4. It should be clearly understood that these lists are purely provisional and are subject to alteration from time to time. Such amendments are published fortnightly as "Notices to Airmen."

5. In those cases in which it is stated that accommodation does not exist, no facilities other than the actual landing grounds are available.

6. No guarantee can be given at the present time that personnel to handle aircraft is available either at the Service Stations or at the Civil licensed aerodromes.

Weather Reports by R/T for Machines in Flight

THE weather reports giving the latest information from stations on the cross-Channel air routes and available at the R/T Offices at Croydon and Lympne for communication to pilots of machines in flight will be drawn up in the following form as from October 17, 1921:—

Time of Observation.	Place.	General Weather and Warning.	Visibility.	Cloud.			Wind.		Weather in preceding two hours.
				Height of lowest cloud.	Amount.		At Surface.	At 2,000 ft. (Direction in degrees from North).	
					Scale : 0 = Nil. 10 = Overcast.				
					Amount of low cloud.	Total Amount of cloud.			

Wireless Men for Aircraft

VOLUNTEERS are required from the wireless branch of the Navy for duty as operators and also as assistants to naval gunnery observer officers in aeroplanes working with the Fleet. Accepted candidates will be required to undergo a course of training in aerial gunnery. Extra pay will be paid to selected ratings at 1s. a day during preliminary training, and thereafter at 2s. a day continuously while detailed for aerial duties.

7. Notices to Airmen Nos. 56, 60, 62, 63 and 75 of the year 1921 are hereby cancelled.

Denmark : Graadyb Lightship

NOTICE to Airmen No. 51 of May 10, 1920, is amended as follows:—(b) *Lightships*.—The Graadyb Lightship has now been moored in the position: Latitude 55° 20' N., Longitude 8° 05' E.

(No. 83 of 1921.)

Belgium : Cloud and Visibility Signals at Ostend

A SYSTEM of meteorological ground signals, indicating the height of the clouds and the visibility at the St. Inglevert, Haren (Brussels) and Schiphol (Amsterdam) aerodromes is now in operation at the Ostend aerodrome.

The signals consist of three groups of two figures, preceded by the letters:—S (= St. Inglevert), BR (= Haren), A (= Schiphol). The first figure indicates the height of the base of the cloud, and the second figure the distance of visibility.

The values assigned to these figures are given in the following tables:—

Height of Base of Clouds.—1 = 0 to 100 metres (0 to 330 ft.), 2 = 100 to 300 metres (330 to 985 ft.), 3 = above 300 metres (above 985 ft.).

Distance of Visibility.—1 = less than 200 metres (less than 220 yds.), 2 = 200 to 500 metres (220 to 550 yds.), 3 = 500 to 1,000 metres (550 to 1,090 yds.).

The signals are white, and are based on hourly meteorological reports received from St. Inglevert, Haren and Schiphol.

The signals are so placed that they can be read whilst flying from S.W. to N.E. in the direction London-Amsterdam, and from N.E. to S.W. in the direction Amsterdam-London.

Previous Notices: Nos. 139 of 1920, 23 and 65 of 1921.

(No. 84 of 1921.)

Spain : Customs, Aerodromes, Etc.

1. *Customs*.—All aircraft arriving in or departing from Spain must land or take off at an appointed Customs aerodrome. The permission of the Spanish Government for an aircraft to enter Spain will only be granted on condition that the first landing be made at one of these aerodromes. The procedure for obtaining such permission was outlined in Notice to Airmen No. 70 of 1920.

Aerodromes and seaplane stations at the following places are recognised as Customs stations:—

Barcelona, San Sebastian, Malaga, Seville, Bilbao (for seaplanes).

2. *Customs Aerodromes*.—Full particulars of aerodromes in the vicinity of the places mentioned in paragraph 1 are given in this Notice (No. 85) and should be obtained from the Air Ministry.

(No. 85 of 1921.)

France : Le Bourget Aerodrome

It is notified in Notice 88 of 1921, relating to France, that at Le Bourget there are temporary obstructions, etc.

Pilots asking for "Weather Report" will be given the whole of this information.

Pilots asking for "Short Weather Report" will be given the information up to and including "Amount of Low Cloud."

(No. 89 of 1921.)

Dvina Force Dinner

THE Third Annual Dinner of the Dvina Force will be held on Saturday, December 3, at the Connaught Rooms, Holborn, at eight o'clock. Subscriptions (£1) should be sent to Sqdn.-Ldr. L. Tomkinson, D.S.O., A.F.C., R.A.F., Room 676, Air Ministry, London. It is hoped that the unveiling of the Dvina Force Memorial will take place that afternoon. Notice of the arrangement will be published on November 19.

LONDON TERMINAL AERODROME

Monday Evening, October 17.

CONSIDERING that winter services are now in operation, the two British companies have done good business this week, but the French companies have not been so fortunate.

The number of passengers carried by both Grands Express and Messageries Aériennes has been in the twenties; but the Instone Air Line have carried 66, an average of 5½ per trip, or well over 50 per cent. load on each journey, without counting goods. As the majority of other forms of transport calculate on a 50 per cent. average load, this is extremely good, and should show a big average when the 100 per cent. loads of the summer are taken into account.

Handley Page Transport have done even better. They had, in fact, to duplicate their service to Paris on Saturday, having no fewer than 14 passengers, and today they have again full loads in both directions. The Instone Air Line had 11 passengers also on the outward journey at 12.15 p.m. today.

There is little doubt that had the British companies possessed the requisite flying stock this summer, they would have carried a much larger percentage of the traffic, because it is evident that, for some reason, passengers both to and from Paris prefer to travel in British machines. With four British companies running next year, using improved and increased flying stock, the figures should become even more significant.

Mr. Handley Page and Mr. Cogni arrived back from Paris on Thursday, well satisfied with the working of the new passenger arrangements at the Hotel Crillon. During the week a cargo consisting of platinum, gold, and silver to the value of £8,000 was carried to Paris in one of the "H.P.'s," and on Sunday the Handley Page D.H.4 made a special journey from Paris to Croydon with an American businessman, who, landing from America on Saturday, wished to transact some urgent business in Paris and arrive in London at the earliest possible moment.

Rumours as to Machines and Combines

It is reported persistently on the aerodrome that the Grands Express are to run Napier-engined "Vimys" next spring. This machine is said to have a larger fuselage than the Rolls "Vimy," and to be capable of carrying many more

passengers. Mr. Bouderie informs me that he has no official knowledge of any change "as yet."

One might expect, in this regard, that there would be some trouble about the French subsidy if British machines and engines were used by a French firm. But perhaps, after all, there is some truth in the rumours of international amalgamation which have been rife for some time.

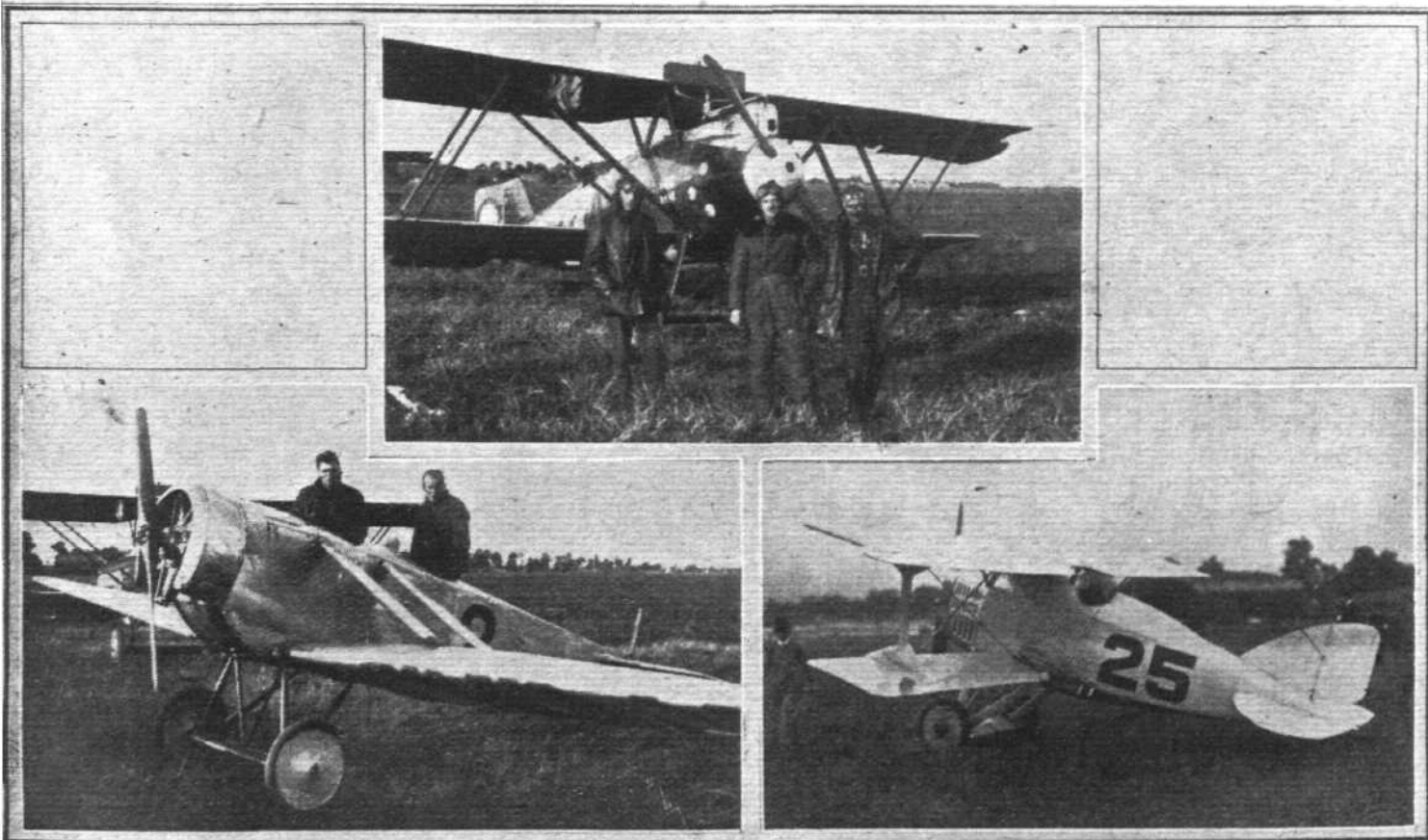
Mr. A. S. Butler, who "garages" his private Bristol tourer at the aerodrome, reappeared on Sunday afternoon. It is so long since he visited the aerodrome that it was thought he had forgotten he owned an aeroplane! He arrived, however, and flew over to Eton, announcing his intention of returning the same evening. In anticipation of his landing, all the aerodrome lights were put on at dark, but when he had not arrived by about 6.30 p.m. the order was given to "shut down."

Mr. O. P. Jones, of the Berkshire Aviation Company, set off from Croydon with a passenger for Ostend in his Avro during the week. The passenger wished to catch at Ostend a train for Prague, and had engaged Mr. Jones through the De Havilland Aircraft Company. Unfortunately, soon after Mr. Jones had left Lympne, where he had landed for petrol, his engine "cut out," and he was obliged to land. In his descent he carried away a line of telephone wires, but managed to land his machine and passenger without damage. The passenger returned to London by train, and Mr. Jones returned to Croydon, with his engine "O.K." again, the following day.

Captain Muir (Surrey Flying Services) tells me that he is busy erecting the first of his dual-controlled Avros for school purposes, and hopes to have the school in working order shortly.

Jov-riding was fairly good during the week-end, the continued fine weather bringing quite a crowd to the aerodrome.

Mr. Young, of the K.L.M., was back at work from his honeymoon today. A romance which began with the opening of the London-Amsterdam service in the spring has thus progressed along happy lines, Mr. Young having married Miss D. Colle, who has been Captain Leverton's secretary since the opening of the K.L.M. service and who was previously with "Airco." Both are well-known on the aerodrome, and were the recipients of a wedding present from members of the aerodrome staffs.



FROM THE FIRST PRAGUE AVIATION MEETING : The first Czecho-Slovakian air competition was held from September 11 to 18, and is reported to have been a great success. Our photos. show: Top, the Sm. machine of the military factory, Prague. This machine, which has a 230 h.p. Hiero engine, did a circuit of about 850 kilometres in 8 hrs. 29 mins. 37 secs., piloted by M. Smahel. The photo. on the left shows the Avia monoplane, which, piloted by B. Munzar, covered the same distance in 9 hrs. 37 mins. 53 secs. It is fitted with a 50 h.p. Gnome. The right-hand photo. shows the chaser "A.E.04" of the Avia Works, Prague. This machine, which has a 185 h.p. B.M.W. engine, was first in the altitude competition and third in the speed contest over one kilometre, its speed being 136 m.p.h. It was piloted by R. Polanecky.

ON MANUFACTURING AIRSCREWS

An Industry in which Craftsmanship is Still Required

PROBABLY it is true to say that in no other branch of wood-working, as far as aircraft is concerned, is there still as great a call for skilled craftsmanship as in the making of laminated wood propellers. The reason is not far to seek. The wood components of an aeroplane or seaplane may have to be manufactured to fine limits—many of them do—but they all have this advantage over the propeller, that they are not called upon to have the same aerodynamical accuracy, nor to be in perfect balance when being rapidly rotated. The consequence is that propeller making is a fine art, and one in which, for best results, machinery cannot quite replace the skilled craftsman. When one is making an aeroplane spar, or a hollow strut, or any of the various wooden components, use can be made of spindle machines or similar machine tools, which take out rapidly and with sufficient accuracy the superfluous wood which it would take hours to remove with a gouge. It is true that most ingenious machines have been designed—and extensively used during the War—for turning out propellers from the glued-up block. And while it cannot be denied that these machines did excellent service when it was a question of quantity production, the machines cannot compare with a skilled craftsman when it comes to really high-class work.

This may appear surprising to many, as it might be thought that a machine, set to certain limits, would work with greater accuracy than could be attained by hand work. While this may be true as regards metals, which are far more homogeneous, it does not apply to wood. This will be obvious when it is remembered that no two laminations in a propeller are alike as regards grain and texture. Now the machine, set to follow a template, does not differentiate in its treatment between a piece of fairly soft wood and a harder piece. Its knives cut into the laminations with a fine disregard for the local conditions of the wood. The workman, on the other hand, sees that one lamination is harder than its neighbours. Consequently he adapts his choice and use of tools to the conditions of the wood, with the result that the finished propeller has a "fairer" section than would the majority of those made by machinery.

Thus the fact that there is now no call for quantity production has had one advantage at any rate: it has reinstated, so to speak, the really skilled wood-worker, who during the War was to some extent supplanted by machinery. This was very forcibly brought home to us recently on a visit to the Falcon Airscrew Co., of 113, Cottenham Road, Holloway, where, by the kindness of Mr. D. M. Davies, we were permitted to follow the manufacture of an airscrew from start to finish.

Stored in the yards are large quantities of mahogany and walnut of the finest quality. These yards are kept well stocked, and the timber is allowed to remain for many months before being used, so as to ensure that it is well seasoned.

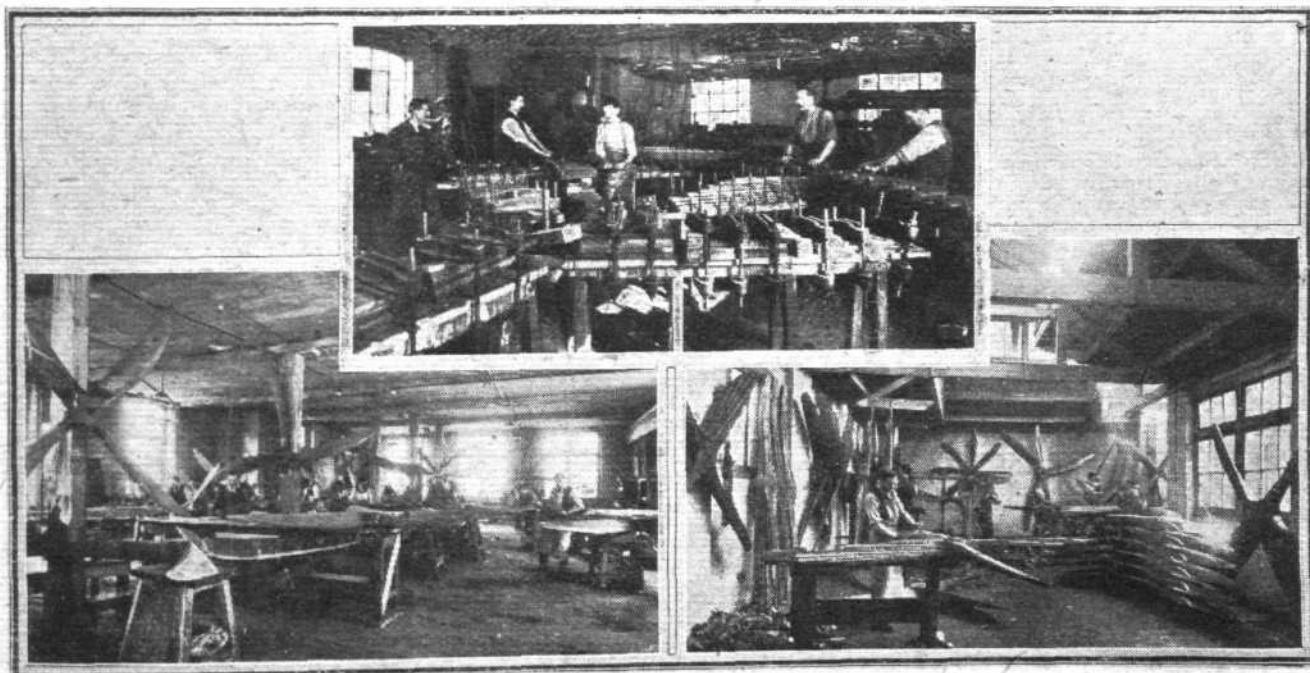
The seasoned timber is conveyed from the yards to the saw-mill and planing shops, in which it is sawn into planks and thickened ready for use. From templates carefully prepared the planks are then marked off and sawn to shape, corresponding to their respective laminations.

The next operation is heating preparatory to the glueing down and clamping of the laminations. In front of a huge fire the planks are warmed to the required degree, and are then placed in their proper position in the jigs, glued together, and clamped down. Here they are allowed to remain for 24 hours until the glue has thoroughly set. They are then lifted off the jigs and taken to the shaping shop, where the edges of the laminations are removed nearly down to the joint lines.

In the shaping and finishing shops these roughly-shaped blocks of laminated wood are turned over to highly-skilled craftsmen, who, making lavish use of gauges and templates, reduce the wood further until the actual sizes called for on the drawings are reached. Here one should interpolate that this is only true with reservations. Before reaching the finished size, the propeller has to be repeatedly balanced to see that one blade is not heavier than another. The effect of even quite minute differences in weight would seriously upset the smooth running of the airscrew, and would give rise to vibration. If, then, the craftsman discovers that one blade is heavier than the other, he has to make up his mind, some considerable time before the finished shape is reached, whether the lack of balance is due to the, at that time, more or less rough state of the propeller. If he decides that after finishing one blade will still be heavier than the other, he has to leave the lighter blade just a trifle over size. (We believe the Air Ministry allows 1 mm.) The other blade is then worked to exact size, and the propeller is put on a sensitive machine, which discloses any difference in balance.

To finish up, the propeller is sand-papered, covered with fabric which is glued on. Then it is painted, and the brass tips are screwed and riveted to the tips and leading edge. This part of the work also calls for great accuracy; as does indeed every operation in the manufacture of an airscrew.

On the occasion of our visit to the Falcon Airscrew Works, we had an opportunity of seeing several examples of four-bladed airscrews. These call for even greater accuracy in workmanship, as the manner of halving together the laminations in the boss is such that quite minute differences in thickness, or angle of the joints, would throw the blades out of alignment. We also saw several extraordinarily fine examples of what is, perhaps, the most difficult and exacting job which a propeller maker can be called upon to do—three-bladed propellers. The joints in the boss of such a propeller are extremely intricate, and it is a testimony to the skill of the workers employed by the Falcon Airscrew Co. that the firm is receiving quite a number of orders for "three-bladers."



AT THE WORKS OF THE FALCON AIRSCREW CO., LTD.: The upper photograph shows a corner of the glueing shop, with several propellers in the clamped-down stage. On the left is seen one end of the shaping shop, and on the right a corner of the finishing shop. Note the stacks of finished propellers on the floor.

PERSONALS

Married

CHRISTOPHER WILLIAM HENRY MOLLER, R.A.F., was married on October 4, at Cromer Parish Church, to ELIZABETH MAUD GWYNNE KERR, elder daughter of Mr. and Mrs. Kerr, of Marsmor, Denbighshire, and Faldonside, Cromer.

Squadron-Leader C. H. NICHOLAS, A.F.C., R.A.F., Martlesham, only son of Mr. J. H. Nicholas, M.A., late of Chelmsford, was married on October 15 at the Wesleyan Church, Skelmanthorpe, to MARIAN, second daughter of the late Mr. EDGAR FIELD and of Mrs. Field, Box Cottage, Skelmanthorpe.

VIVIAN ARTHUR WATKINS, late of Lord Strathcona's Horse and R.F.C., was married on October 6, by special licence, to JESSIE MAY, widow of A. E. ALDINGTON, Solicitor, of Edgbaston.

Air-Commodore D. PITCHER, D.S.O., C.M.G., C.B.E., R.A.F., son of Col. D. G. PITCHER, of 74, St. George's Road, S.W. 1, was married on October 4, at the Church of Corpus Christi, Maiden Lane, Strand, to FRANCES EVELYN, daughter of Mrs. A. BARNES, of 14, Buckingham Street, Adelphi.

To be Married

The engagement is announced between Mr. A. LESLIE JONES, R.A.F., eldest son of Mr. and Mrs. J. A. Jones, The Firs, Olton, Warwickshire, and NORA, younger daughter of Mr. and Mrs. A. TATHAM, Magdala Road, Nottingham.

The engagement is announced of Maj. MONTAGUE SKITT, late R.F.A. and R.A.F., of 16, Stanhope Gardens, S.W. 7, and BERYL JOYCE, daughter of the late Mr. WILLIAM FRANCIS HINTON and Mrs. K. S. HINTON, of 44A, Courtfield Gardens, S.W. 5.

HAYES AND DISTRICT WORKS CRICKET LEAGUE

Fairey Aviation (Champions) v. Rest of League

THIS interesting match was played on a recent Saturday in fine but dull weather. Unfortunately the "Rest" Team Captain, G. A. Massey, was unable to take his place in the team owing to business, F. Calcutt being elected in his place.

The "Rest" won the toss, and decided to bat on a good wicket, but made a bad start, Anderson being bowled before a run was scored, and with only a few runs added two more wickets fell. A good stand was then made by Day and Calcutt, and the score was carried to 60. When Day, who had batted well, was bowled for 32; Pearce and Calcutt took the score to 82, when Calcutt was well caught by Deane (15). Pearce left soon after for a hard hit 22. Collapse followed, and the whole side were out for 92 runs.

The Fairey bowling throughout was good, especially Luckford and Purchase, who at times were practically unplayable. After a brief interval the Fairey team opened their innings with Nye and Deane, and with 9 runs on the board, Deane, in attempting a run, was run out. Lawrence followed, but after scoring 9 was bowled. Purchase then joined Nye, who was playing splendid cricket, and a good stand was made, both men scoring at a rapid rate all round the ground, and before they were parted the necessary runs had been knocked off. Purchase was then bowled by Pearce for a splendid innings of 37. Nye was playing "like a book," his placing being perfect, and with Charsley he sent the score along merrily, the spectators being treated to a splendid exhibition of run-getting, which they were not slow to recognise. Unfortunately for them, it had been arranged to draw stumps at six o'clock if a decision had been reached. Charsley was bowled just before the close, and with a score of 153 for 5 wickets stumps were drawn.

Nye carried his bat for a perfect 76 not out (among his hits being 11 "fours"), and received a great ovation at the finish from those lucky enough to be in attendance.

Mr. Fairey, the League President, accompanied by Mrs. Fairey and Mr. Crisp, were present during the whole match, and greatly appreciated the splendid cricket shown by the teams, and at the close congratulated Nye upon his fine innings.

As for the Fairey team's work during the past season, Mr. Fairey may well be proud of their doings as compared with the other eight clubs against whom they have been pitted. In addition to securing the above "final" against the "rest of the League" by 8 wickets, the Fairey Club have again won the Hayes and District Works Cricket League Cup, having won outright all 16 matches of the season. Moreover, their keenness and sportsmanlike play throughout has scored a further win, in the popular victory which the final results record.

The batting and bowling averages, seeing it is afternoon and evening cricket only, are remarkable, the outstanding personalities being Nye, the Club's star batsman; Purchase, both bowler and bat; and Lawrence, the Captain, who shows considerable subtlety in the handling of his team. G. C. Owers, the General Secretary, is responsible not only for the whole organisation of the Athletic Club and is the instigator and organiser of the League itself, but has also taken a hand in the practical work of the Club, having played in a dozen of the matches and helped along in one match with 17 runs and a "not out."

Evidently the Fairey team not only excel in aeroplane building!

□ □ □ □ □ □ □ □

□ The Fairey Cricket Club Team. In the centre of the middle row is Mr. C. R. Fairey, and the others from left to right are:—Back row: Messrs. A. F. Wellerman, C. Luckford, T. Blackburn, F. Hazell, A. Pearce, L. Deane, T. Bateman, R. Cory. Middle row: P. E. Nye, W. Broadbent, R. J. Lawrence, G. C. Owers, A. A. Amos, C. G. Hall. Front row: H. R. Haynes, R. Purchase, H. Coates, H. Reeve.

□ Photo. by Bollond, Southall.

□ □ □ □ □ □ □ □



ROYAL AIR FORCE MEMORIAL FUND

At a meeting of the Executive Committee on October 10 the following members were present:—Lord Hugh Cecil (Chairman), Lady Leighton, Dame Helen Gwynne-Vaughan, Mrs. Barrington-Kennett, Air Vice-Marshal A. V. Vyvyan, Air-Commodore H. R. M. Brooke-Popham, Mr. H. E. Perrin, Mr. F. E. Rosher, Mr. W. S. Field.

The list of donations and subscriptions received since the last meeting on July 27, 1921, was submitted, together with a long list of grants, made since the same date. It is regretted that the list of subscriptions is, considering the lapse of time, far too small, but it is fully recognised that the country is passing through a most serious financial crisis, and that much assistance cannot at the present time be expected. This is the more regrettable as the applications for assistance have very largely increased in the last few months, but this is only to be expected under the circumstances.

One pleasant incident occurred when Mr. Walter S. Field presented to the Chairman on behalf of the R.A.F. Hospital Committee (now non-existent) a handsome cheque for £1,285 14s. 3d., being the balance of that Fund. It is worthy again of record that this Hospital Committee has paid over to this Fund in all the very handsome sum of £24,285 14s. 3d., which has been a most welcome addition, and a hearty vote

of thanks was accorded to the Committee for their further assistance.

The designs of Sir Reginald Blomfield, R.A., who has been appointed Consultant Architect to the Committee, for the War Memorial at Whitehall Stairs, Thames Embankment, were generally approved, and the sub-committee dealing with the matter, of which Lord Hugh Cecil is Chairman, were authorised to proceed with the construction of the memorial without unnecessary delay.

Sir John Salmond, Chairman of the Vanbrugh Castle Sub-committee, reported that the Vanbrugh Castle School, which was started in the middle of August, is in full swing, and is doing excellent work. It is hoped H.R.H. Princess Mary will formally open the school at an early date.

The audited balance-sheet of the R.A.F. Aerial Pageant, held at Hendon last July, was presented to the meeting, and showed the extraordinarily handsome profit of over £8,000, a large portion of which is immediately available for the use of the Fund: a certain proportion, however, being retained as a nucleus for next year's air pageant. A very hearty vote of thanks was passed to Air Vice-Marshal Sir John Salmond and to his Pageant Committee for the wonderful success of the 1921 Pageant.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

Flight-Lieutenants.—E. W. Longden, from R.A.F. Depot (Inland Area), to Armament and Gunnery School (Cadre) (Inland Area). 21.9.21. R. S. Capon, from Air Ministry (D. of R.), to Armament and Gunnery School (Cadre) (Inland Area). 19.9.21. F. Paterson, from Coastal Area Aircraft Depot (Coastal Area), to No. 203 Squadron (Coastal Area). 1.10.21. A. N. Gallehawe, A.F.C., from Coastal Area Aircraft Depot (Coastal Area), to No. 203 Squadron (Coastal Area). 1.10.21. W. S. Caster, M.C., from Central Flying School (Inland Area), to No. 6 Flying Training School (Inland Area). 21.9.21. (The previous notification wherein this Officer was posted to No. 2 Flying Training School, with effect from 21.9.21, is cancelled.) P. A. Hall, M.B., B.A., from R.A.F. Depot (Inland Area), to Army School of Hygiene, Blackpool. Attached for course of instruction. 12.9.21. R. T. Leather, A.F.C., from R.A.F. Depot (Inland Area), to No. 20 Squadron (India). 22.9.21.

Group-Captain R. Gordon, C.B., C.M.G., D.S.O., from R.A.F. Depot (Inland Area), to Headquarters, Middle East Area. For Staff duties. 24.9.21.

Flight-Lieuts. J. H. Simpson, from Elec. and Wireless School (Inland Area), to Palestine Group Headquarters (Middle East Area). 24.9.21. E. A. Lumley, M.C., M.B., from Armament and Gunnery School (Cadre) Inland Area, to Headquarters, Middle East Area. 24.9.21. A. F. Rook, D.P.H., from R.A.F. Depot (Inland Area), to Headquarters, Coastal Area. 1.10.21. L. H. Slatter, O.B.E., D.S.O., D.F.C., from R.A.F. Base (No. 205 Squadron) (Coastal Area), to No. 203 Squadron (Coastal Area). 1.10.21. C. O. F. Modin, D.S.C., from No. 230 Squadron (Coastal Area), to R.A.F. Base, Leuchars (Coastal Area). Attached for temporary duty in connection with Fleet exercises. 23.9.21. G. R. A. Deacon, M.C., from Central Flying School (Inland Area), to R.A.F. (Cadet) College (Fly. Wg.) (Cranwell). For duty as Flying Instructor. 13.10.21.

Wing-Commanders.—J. C. Halahan, C.B.E., A.F.C., from R.A.F. Depot (Inland Area) to command R.A.F. School (India). 27.9.21. A. Fletcher, C.M.G., C.B.E., M.C. This officer is posted from R.A.F. Depot (Inland Area) to command Aircraft Park, Mesopotamia (Middle East Area), and not Aircraft Depot, Mesopotamia, as previously notified. 15.9.21.

Squadron-Leaders.—D. G. Donald, D.F.C., A.F.C., from Headquarters, Coastal Area, to command R.A.F. Base, Leuchars (No. 3 Squadron, C. Area), on ceasing to be attached to No. 205 Squadron. 1.10.21. F. C. Jobson from R.A.F. Depot (Inland Area) to Headquarters No. 11 (Irish) Wing. Attached for duty was President, Medical Survey. 7.10.21.

Flight-Lieutenants.—H. O. Long, D.S.O., from Inter-Allied Aeronautical Commission of Control (Germany) to R.A.F. Depot (Supernumerary), to be attached to Aeroplane Experimental Establishment (Inland Area). 8.10.21.

W. H. Hoile, M.B.E., from Air Pilotage School (Cadre) (Inland Area) to No. 4 Stores Depot (Supernumerary) for course of instruction. 10.10.21. R. D. Ward-James from Air Pilotage School (Cadre) (Inland Area) to No. 4 Stores Depot (Supernumerary) for course of instruction. 10.10.21. W. C. Green, M.C., from No. 28 Squadron (India) to No. 4 Flying Training School (Middle East Area). 25.6.21. C. Bompfrey, D.F.C., from No. 205 Squadron to No. 3 Squadron, R.A.F., Base Leuchars (Coastal Area). 1.10.21. J. A. Macnab from No. 205 Squadron to No. 3 Squadron, R.A.F., Base Leuchars (Coastal Area). 1.10.21. A. W. Fletcher, D.F.C., A.F.C., from No. 203 Squadron (Coastal Area) to R.A.F. Base, Leuchars (No. 3 Squadron), (Coastal Area). 1.10.21. J. G. Skeet, from R.A.F. Depot (Inland Area) to Inland Area Aircraft Depot (Inland Area). 1.10.21.

Wing-Commander.—C. E. C. Stanford, D.S.O., M.B., B.Sc., from Inspectorate of Recruiting (C. Area) to Headquarters (Inland Area). For temporary duty as Principal Medical Officer. 10.10.21.

Squadron-Leaders.—R. W. Thomas, O.B.E., from Air Ministry (D. of E.) to Iraq Group Headquarters (Middle East Area). 4.10.21. R. E. Saul, D.F.C., from School of Army Co-operation (Inland Area) to School of Artillery, Larkhill. Attached for course of instruction for Senior Officers. 24.10.21 to 4.11.21. A. W. H. James, M.C., from R.A.F. (Cadet) College (Ground Wing), Cranwell, to School of Artillery, Larkhill. For course of instruction for Senior Officers. 24.10.21 to 4.11.21.

Flight-Lieutenants.—A. Ferris, from Record Office (Inland Area) to Aircraft Park, Iraq (Middle East Area). 4.10.21. E. J. Cuckney, D.S.C., from R.A.F. Depot (Inland Area) to No. 2 Wing Headquarters (India). 4.10.21. M. J. Cahalane, M.B., from No. 1 Flying Training School (Inland Area) to Aeroplane Experimental Establishment (Inland Area). 1.10.21. D. E. Ward, from Inter-Allied Aeronautical Commission of Control (Germany) to Headquarters, Inland Area. 6.10.21.

Group-Captains.—R. H. Clark Hall, C.M.G., D.S.O., from No. 29 Group Headquarters (Coastal Area) to Air Pilotage School (Cadre) (Inland Area). (Supernumerary.) For duty as Instructor at R.A.F. Staff College (on formation). 1.11.21. C. S. Burnett, C.B.E., D.S.O., to command No. 29 Group Headquarters (Coastal Area) (from Half-pay List). 1.11.21.

Wing-Commanders.—P. B. Joubert de la Ferte, C.M.G., D.S.O., from M.T. Repair Depot (Inland Area) to Air Pilotage School (Cadre) (Inland Area). (Supernumerary.) For duty as Instructor at Staff College (on formation). 1.11.21. W. R. Freeman, D.S.O., M.C., from No. 2 Flying Training School (Inland Area) to Air Pilotage School (Cadre) (Inland Area). (Supernumerary.) For duty as Instructor at Staff College (on formation). 1.11.21. S. Smith, D.S.O., A.F.C., from Air Ministry (D.T.O.), to command No. 2 Flying Training School (Inland Area). 1.11.21.

"R. 38" Memorial Fund

AMONG the donations received by the Secretary of the Royal Aeronautical Society towards their fund in memory of the men who were lost in "R. 38" is a cheque for £100, which has been voted by the Committee of Lloyd's from the Corporation Funds. In forwarding the cheque Mr. Sydney Boulton, Chairman of Lloyd's, said that the Committee did this "as a recognition of their appreciation of the excellent objects to which the Fund is to be devoted." The first list of Donations is headed by H.R.H. The Prince of Wales with £10 and H.R.H. The Duke of York, K.G., £5. Rt. Hon. Lord Weir, £105; Sir Alan Anderson, £105; Lloyd's Royal Exchange, £100; Council of the Royal Aeronautical Society, £61 2s.; An American Sympathiser, £25; Lady Shelley-Rolls, £25; Mrs. E. M. Hilder, £10 10s.; H. P. Marsh, Esq., J.P., £10 10s.; Lieut.-Col. W. Lockwood Marsh, £10; Mrs. Waterlow, £10; "From the Wreck," £6; Staff of U.S. Military Attaché, £6; Lord Gorell, £5 5s.; Mr. and Mrs. W. J. Anderson, £5; Staff of U.S. Naval Attaché, £4 10s.; Maj. G. H. Abell, £2 2s.; Flight-Lieut. F. M. Rope, £2 2s.; Capt. H. T. A. Bosenquet, Sir Charles Bright, "B. C.," E. R. Calthrop, Miss B. Haigh, Sir Samuel Roberts, £1 1s. each; "J. T.," 10s. Total, £515 7s.

Further donations should be sent to the Secretary, Royal Aeronautical Society, 7, Albemarle Street, W. 1.

India General Service Medal

THE Riband of the India General Service Medal, granted for operations against Afghanistan, 1919, may now be worn by personnel of the Royal Air Force who are entitled to the award of the medal.

Officers and airmen who took part in the campaign and are no longer serving, and who desire a preliminary issue of riband, should apply direct to the Air Officer Commanding, Headquarters, Royal Air Force, Ambala, India, giving the following particulars:—

- (i) Full name.
- (ii) Name of unit and corps (and in the case of airmen their number therein) in which the medal was earned.
- (iii) If they served in a corps other than that in which the medal was earned, the name of the last corps in which they served, regimental number therein, and date of discharge or demobilisation.
- (iv) Full address to which the riband should be sent.

The issue of the riband gives the recipient no claim to the medal if it is eventually ascertained that he is not entitled to it.

THE King has granted the following officers permission to wear the undermentioned decorations, which have been conferred in recognition of valuable services rendered during the War :—

REUNION dinner at Anderton's Hotel, Fleet Street, on Thursday, December 1. Will all old boys, who have not done so, kindly register their present addresses at once with W. G. Lavender, Hon. Sec., 16, Alma Road, Wandsworth, S.W. 18. ?

FOLKESTONE Air Raid Fund has been closed. Nearly £8,000 was paid to sufferers from raids. A balance of £180 will be handed to the Folkestone Hospital.

An official Chinese circular has been issued regarding the Peking-Tsinan Aerial Postal Service which was inaugurated on July 1, not August 1, as was officially stated previously. Regulations governing the carriage of mails or parcels are briefly as follows:—

1. The Peking-Tsinan Aerial Postal Service will carry mails and valuables. No passengers will be carried for the time being.

2. The service from Peking to Tsinan will be on Wednesdays, Fridays, and Sundays, while from Tsinan to Peking the service will be on Tuesdays, Thursdays and Saturdays.

3. Machines will leave Peking on the scheduled days at 5 p.m., while they will start on their return trip at 10.30 a.m. The journey will be covered in two and a half hours.

4. The Peking terminal station will be Nanyuan temporarily, and that at Tsinan will be near Tuan Tin, Tsinan.

5. Besides the regular postage, mail or parcels carried by the service will pay aerial postage, the amount of which will be announced by the Chinese Post Office.

6. Aerial Stamps will be on sale at all Post Offices.

7. Ordinary mails and parcels will be received at all Post Offices, but valuables must be taken for transportation to the Preparation Bureau of the Peking-Shanghai Aerial Service Administration, Peking, or either the Peking or Tsinan Aerodrome.

BEFORE several thousands of spectators at Regina, Ontario, Mr. Lloyd Reese, a New York airman, last week fell 400 ft. to instant death as he was attempting to pass from one aeroplane to another in mid-air by means of a rope-ladder.

It has not yet been settled whether next year's contest shall start from Berne, by reason of Capt. Armbruster, whose balloon won this year's race for Switzerland, belonging to that city, or Geneva, the native place of M. Ansermier, the acting aeronaut. It looks as if the city giving the most financial support will get the preference.

THE name of Colchester is to be marked in chalk letters on the Abbey Field, adjoining the barracks, at the instigation of the Air Ministry. But why should not all other important towns follow suit?

A BI-MONTHLY aerial service between New York City and Havana, Cuba, was inaugurated last month by the Aeromarine ex-navy six-passenger flying boat "Presidente Zayas." The flying boat left Hudson River, N.Y., on September 22, with four passengers and two pilots (D. G. Richardson and R. Greiringer), and arrived at Havana on September 25, the actual flying time being 19 hrs. for the 1,521 miles. Stops were made at Atlantic City, Beaufort, S.C., Miami, and Key West. The departure of the "Presidente Zayas" marks the inauguration of a direct flying service between New York and Cuba, which is expected to become more frequent toward the end of the year, and may develop into a regular weekly service. Under the new schedule it is possible for passengers to board an Aeromarine flying boat in New York in the morning, fly to Beaufort, S.C., the first day, transfer there the following morning to another boat which has been held in waiting and fly to Miami, where another transfer is made, and from there on to Key West and Havana, arriving in Havana the afternoon of the second day. By rail and boat a passenger does not arrive in Havana until the morning of the fourth day.

Technical Note No. 31. *Crippling Strength of Axially Loaded Rods.* By FR. NATALIS. National Advisory Committee for Aeronautics, Navy Building, Washington, D.C., U.S.A.

Report No. 117. *The Drag of Zeppelin Airships*. National Advisory Committee for Aeronautics, Navy Building, Washington, D.C., U.S.A.

MR. J. ASHMORE, writing from Coventry, asks: "Could you please inform me if the Airships Old Comrades' Association is still in existence, and, if so, Secretary's address?"

Abbreviations: cyl. = cylinder; I.C. = internal combustion; m. = motors

The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

Published October 6, 1921

18,616. F. J. W. and P. A. PURTON. Sustentation or propulsion of aircraft. (168,732.)
20,136. RIEDINGER BALLON FABRIK AUGSBERG A.-G. Belt for attaching ropes to balloon covers, etc. (148,213.)
21,388. M. WINCKELMANN. Foldable aeroplane wings. (168,746.)
26,327. O. HENSLEY. Parachutes. (168,784.)
27,803. J. R. KUNZELMAN and others. Steering mechanism. (168,792.)
29,390. T. A. DICKS. Screw propellers. (168,801.)

Published October 13, 1921

7,480. H. E. S. HOLT. Parachute entrolling apparatus. (168,924.)
15,786 and 15,787. P. C. HEWITT. Helicopters. (145,013 and 145,014.)
16,443. G. A. REYNOLDS. Revolving-cyl. L.C. engines. (160,015.)
18,928. LUFTSCHIFFBAU SCHUTTE-LANZ. Radiator closing valve. (146,995.)
20,827. GEF. FÜR NAUTISCHE INSTRUMENTE. Gyroscopic compass. (148,967.)

Published October 20, 1921

16,498. J. AND R. GASTAMBE. Planes of aeroplanes. (145,434.)
17,046. C. A. TEFFT. Aeroplanes. (146,121.)
17,618. O. C. HOLDERSON. Folding planes. (169,298.)
17,676. M. M. E. BESSON. Hydro-aeroplanes. (145,559.)
19,138. C. ZEISS. Devices for laying a gun mounted on an aircraft. (147,108.)
19,219. GOODYEAR TYRE AND RUBBER CO. Balloons. (147,162.)
20,194. DEUTSCHE FLUGZEUG-WERKE GES. Aeroplanes. (148,257.)
20,714. H. JUNKERS. Monoplane. (148,891.)
21,046. LUFTFAHRZEUGBAU SCHUTTE-LANZ. Cooling arrangement for aircraft. (153,310.)
21,049. LUFTFAHRZEUGBAU SCHUTTE-LANZ. Gas-discharge arrangement for rigid airships. (153,320.)
23,522. H. JUNKERS. Balancing of aeroplanes. (149,995.)
25,227. T. D. CARNEAL. Aircraft. (169,373.)
25,972. A. J. T. IRELAND. Propellers. (169,382.)
30,722. H. LEITNER. Metal propellers. (169,393.)
36,509. M. WINCKELMANN. Hydro-aeroplanes. (160,408.)

APPLIED FOR IN 1921

8,299. E. A. PERRIN. *Propellers.* (161,170.)

If you require anything pertaining to aviation, study "FLIGHT'S" Buyers' Guide and Trade Directory, which appears in our advertisement pages each week (see pages iii and xiv).

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